

1 CLAIMS:

2 1. A method of forming a base plate for a field emission  
3 display (FED) device comprising:

4 providing a substrate configurable into a base plate for a field  
5 emission display (FED); and

6 forming a plurality of discrete, segmented regions of field emitter  
7 tips by removing at least portions of the substrate; individual discrete,  
8 segmented regions being electrically isolated into separately-addressable  
9 regions of field emitter tips.

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11 2. The method of claim 1, wherein the forming of the plurality  
12 of discrete, segmented regions comprises forming at least two regions.

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14 3. The method of claim 1, wherein the forming of the plurality  
15 of discrete, segmented regions comprises forming at least three regions.

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17 4. The method of claim 1, wherein the forming of the plurality  
18 of discrete, segmented regions comprises forming four regions.

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20 5. The method of claim 1, wherein the forming of the plurality  
21 of discrete, segmented regions comprises etching said portions of the  
22 substrate into at least two regions.  
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1 6. The method of claim 1, wherein the forming of the plurality  
2 of discrete, segmented regions comprises etching said portions of the  
3 substrate into at least three regions.

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5 7. The method of claim 1, wherein the forming of the plurality  
6 of discrete, segmented regions comprises etching said portions of the  
7 substrate into four regions.

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9 8. The method of claim 1, wherein the base plate, as formed,  
10 comprises a monolithic base plate of field emitter tips.

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12 9. The method of claim 1 further comprising providing address  
13 circuitry operably coupled with the substrate and configured to separately  
14 address individual regions of the field emitter tips.

1 10. A method of forming a base plate for a field emission  
2 display (FED) device comprising:

3 providing a substrate configurable into a base plate for a field  
4 emission display (FED);

5 forming a plurality field emitters from material of the substrate,  
6 the emitters being arranged into more than one demarcated,  
independently-addressable region of emitters; and

8 providing address circuitry operably coupled with the field emitters  
9 and configured to independently address individual regions of the  
10 emitters.

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12 11. The method of claim 10, wherein the forming of the  
13 plurality of field emitters comprises etching material of the substrate to  
14 form the field emitters.

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16 12. The method of claim 10, wherein the emitters are arranged  
17 into more than two demarcated, independently-addressable regions of  
18 emitters.

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20 13. The method of claim 10, wherein the emitters are arranged  
21 into more than three demarcated, independently-addressable regions of  
22 emitters.

1 14. The method of claim 10, wherein the emitters are arranged  
2 into four demarcated, independently-addressable regions of emitters.  
3

4 15. The method of claim 10, wherein the arrangement of  
5 emitters defines a plurality of rows and columns within each region, and  
6 the providing of the address circuitry comprises providing at least two  
- separate row drivers for addressing rows in different regions of the  
8 emitters.  
9

10 16. The method of claim 10, wherein the arrangement of  
11 emitters defines a plurality of rows and columns within each region, and  
12 the providing of the address circuitry comprises providing at least two  
13 separate column drivers for addressing columns in different regions of  
14 the emitters.  
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16 17. The method of claim 10, wherein the arrangement of  
17 emitters defines a plurality of rows and columns within each region, and  
18 the providing of the address circuitry comprises providing at least two  
19 separate row drivers and at least two separate column drivers for  
20 addressing rows and columns in different respective regions of the  
21 emitters.  
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1 18. A method of forming a base plate for a field emission  
2 display (FED) device comprising:

3 providing a monolithic addressable matrix of rows and columns of  
4 field emitters, the matrix having a perimetral edge defining length and  
5 width dimensions of the matrix;

6 partitioning the matrix into a plurality of discretely-addressable  
- sub-matrices of field emitters; and

8 providing row and column address lines operably coupled with the  
9 matrix and collectively configured to address the field emitters, at least  
10 one of the row or column address lines having a length within the  
11 matrix which is sufficient to address less than all of the field emitters  
12 which lie in the direction along which the at least one row or column  
13 address line extends within the matrix.

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15 19. The method of claim 18, wherein the length of said one  
16 row or column address line within the matrix is less than a length or  
17 width dimension of the matrix.

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19 20. The method of claim 18, wherein the length of said one  
20 row or column address line within the matrix is less than a length or  
21 width dimension of one of the sub-matrices.  
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1           21. The method of claim 18, wherein the partitioning of the  
2 matrix comprises partitioning said matrix into more than two sub-  
3 matrices.

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5           22. The method of claim 18, wherein the partitioning of the  
6 matrix comprises partitioning said matrix into more than three sub-  
7 matrices.

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9           23. The method of claim 18, wherein the partitioning of the  
10 matrix comprises partitioning said matrix into four sub-matrices.

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12           24. A method of forming a field emission display (FED) device  
13 comprising:

14           providing a substrate configurable into a base plate for a field  
15 emission display (FED);

16           forming a plurality of discrete, segmented regions of field emitter  
17 tips by at least removing portions of the substrate; individual discrete,  
18 segmented regions being electrically isolated into separately-addressable  
19 regions of field emitter tips;

20           providing a face plate supporting areas of luminescent material;  
21 and

22           mounting the face plate in operable proximity with the substrate.  
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1           25. The method of claim 24, wherein the forming of the  
2 plurality of discrete, segmented regions comprises forming at least two  
3 regions.

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5           26. The method of claim 24, wherein the forming of the  
6 plurality of discrete, segmented regions comprises forming at least three  
7 regions.

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9           27. The method of claim 24, wherein the forming of the  
10 plurality of discrete, segmented regions comprises forming at least four  
11 regions.

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1           28. A method of forming a field emission display (FED) device  
2 comprising:

3           providing a substrate configurable into a base plate for a field  
4 emission display (FED);

5           forming a plurality field emitters from material of the substrate,  
6 the emitters being arranged into more than one demarcated,  
7 independently-addressable region of emitters;

8           providing address circuitry operably coupled with the field emitters  
9 and configured to independently address individual regions of the  
10 emitters;

11           providing a face plate supporting areas of luminescent material;  
12 and

13           mounting the face plate in operable proximity with the substrate.  
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15           29. The method of claim 28, wherein the emitters are arranged  
16 into more than two demarcated, independently-addressable regions of  
17 emitters.  
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19           30. The method of claim 28, wherein the emitters are arranged  
20 into more than three demarcated, independently-addressable regions of  
21 emitters.  
22

23           31. The method of claim 28, wherein the emitters are arranged  
24 into four demarcated, independently-addressable regions of emitters.



1           32. A method of forming a field emission display (FED) device  
2 comprising:

3           providing a monolithic addressable matrix of rows and columns of  
4 field emitters, the matrix having a perimetral edge defining length and  
5 width dimensions of the matrix;

6           partitioning the matrix into a plurality of discretely-addressable  
7 sub-matrices of field emitters;

8           providing row and column address lines operably coupled with the  
9 matrix and collectively configured to address the field emitters, at least  
10 one of the row or column address lines having a length within the  
11 matrix which is sufficient to address less than all of the field emitters  
12 which lie in the direction along which the at least one row or column  
13 address line extends within the matrix;

14           providing a face plate supporting areas of luminescent material;

15 and

16           mounting the face plate in operable proximity with the monolithic  
17 addressable matrix.

1 33. A base plate for a field emission display (FED) device  
2 comprising a monolithic substrate configured into a base plate for a  
3 field emission display (FED) and comprising a plurality of regions of  
4 plural field emitter tips which are comprised of material of the  
5 substrate, individual regions of the plurality of regions being discrete  
6 and electrically isolated from one another and configured to be  
- separately addressed.

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9 34. The base plate of claim 33, wherein the substrate comprises  
10 at least two regions of field emitter tips.

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12 35. The base plate of claim 33, wherein the substrate comprises  
13 at least three regions of field emitter tips.

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15 36. The base plate of claim 33, wherein the substrate comprises  
16 at least four regions of field emitter tips.

1 37. A field emission display (FED) device comprising:

2 a monolithic substrate configured into a base plate for a field  
3 emission display (FED) and comprising a plurality of regions of plural  
4 field emitter tips which are comprised of material of the substrate,  
5 individual regions of the plurality of regions being discrete and  
6 electrically isolated from one another and configured to be separately  
- addressed; and

8 a face plate supporting areas of luminescent material mounted in  
9 operable proximity with the substrate.

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11 38. The field emission display (FED) of claim 37, wherein the  
12 substrate comprises at least two regions of field emitter tips.

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14 39. The field emission display (FED) of claim 37, wherein the  
15 substrate comprises at least three regions of field emitter tips.

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17 40. The field emission display (FED) of claim 37, wherein the  
18 substrate comprises at least four regions of field emitter tips.

1 41. A field emission display (FED) device comprising:  
2 a monolithic addressable matrix of rows and columns of field  
3 emitters, the matrix having a perimetral edge defining length and width  
4 dimensions of the matrix; the matrix being partitioned into a plurality  
5 of discretely-addressable sub-matrices of field emitters;

6 row and column address lines operably coupled with the matrix  
7 and collectively configured to address the field emitters, at least one of  
8 the row or column address lines having a length within the matrix  
9 which is sufficient to address less than all of the field emitters which  
10 lie in the direction along which the at least one row or column address  
11 line extends within the matrix; and

12 a face plate supporting areas of luminescent material mounted in  
13 operable proximity with the monolithic addressable matrix.  
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15 42. The field emission display (FED) device of claim 41,  
16 wherein the matrix comprises more than two sub-matrices.  
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18 43. The field emission display (FED) device of claim 41,  
19 wherein the matrix comprises more than three sub-matrices.  
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21 44. The field emission display (FED) device of claim 41,  
22 wherein the matrix comprises four sub-matrices.  
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